REMARKS

Claims 1-25 are presented for examination.

Claim 25 has been rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.

In response, claim 25 has been amended to recite that the computer program product is provided on a computer-readable medium.

Claims 1-7 and 13-19 have been objected because of using the phrases "threshold metric" and "cyclic redundancy check code has been passed."

The Examiner's objections are respectfully traversed.

Claim 1 recites the step of determining whether a pre-determined decoder termination threshold metric has been met.

It is respectfully submitted that one having ordinary skill in the art, with the supporting specification in hand, would be able to understand what is claimed. For example, the specification discloses a threshold metric processor 402 (FIG. 4) that performs a threshold metric test 403. This test determines whether decoding should terminate, based on whether a threshold metric has fallen above or below a particular threshold metric value (page 5, lines 4-8).

Further, claim 1 recites the step of determining whether a decoder termination test based on a cyclic redundancy check code has been passed. Accordingly, claim recites "whether a decoder termination test...has been passed" rather than "whether a cyclic redundancy check code has been passed," as the Examiner appears to assert.

It is respectfully submitted that no reason is evident to conclude that one skilled in the art would be confused with the scope of this step. For example, the specification discloses that a

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cyclic redundancy check (CRC) processor 404 (FIG. 4) performs the CRC test 405 to determine whether decoding should be actually terminated (page 5, lines 8-10).

It is well settled that a decision on whether a claim is invalid requires a determination of whether those skilled in the art would understand what is claimed when the claim is read in light of the specification, ***Seattle Box Co. v Industrial Crating & Packing***, 731 F.2d 381, 385, 221 U.S.P.Q. 568, 574 (Fed. Cir. 1984).

As demonstrated above, one having ordinary skill in the art with the supporting specification in hand, would be able to ascertain the scope of the claims. Therefore, the claims fully comply with the statutory requirement to set out and circumscribe a subject matter area with a reasonable degree of precision and particularity.

Claims 1, 6-11, 13, 18-23 and 25 have been rejected under 35 U.S.C. 102(b) as being anticipated by Sindhushayana (US patent 6,292,918).

To more clearly define the claimed invention over the reference, independent claims 1 and 13 have been amended.

In particular, claim 1, as amended, recites a method for decoding a received sequence of symbols of a frame using a turbo decoding process that comprises a plurality of decoder iterations. The method comprises:

-determining whether a pre-determined decoder termination threshold metric has been met;

-identifying frames for use in further processing, if the threshold metric has been met but only after a pre-determined maximum number of decoder iterations;

-only if the threshold metric has been met, determining whether a decoder termination test based on a cyclic redundancy check code has been passed; and

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-only if the cyclic redundancy check test has been passed, terminating the decoder iterations.

Claim 13, as amended, recites an apparatus for decoding a received sequence of symbols of a frame using a turbo decoding process that comprises a plurality of decoder iterations. The apparatus comprises:

-a threshold metric processor for determining whether a pre-determined decoder termination threshold metric has been met;

-a maximum iteration processor for identifying frames for use in further processing, if the threshold metric has been met but only after a pre-determined maximum number of decoder iteration;

-a cyclic redundancy check processor for determining, only if the threshold metric processor determines that the threshold metric has been met, whether a decoder termination test based on a cyclic redundancy check code has been passed; and

-a decoder termination means for terminating the decoder iterations, only if the cyclic redundancy check test has been passed.

Hence, the independent claims 1 and 13 recites identifying frames for use in further processing, if the threshold metric has been met but only after a pre-determined maximum number of decoder iteration.

As explained in the specification, the threshold metric processor 402 that performs a threshold metric test may comprise a maximum iteration processor 512 (FIG. 5) that determines whether a frame of data passed the threshold test, but only after a predetermined number of decoder iterations; and identifies those frames as such for use in future processing. In this way, the system is able to identify frames that are unlikely to be correct, even if the CRC test 405 is subsequently

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successful, so that the frames may be appropriately treated as potentially inaccurate in further processing steps.

Hence, the claims require identifying the frames for use in further processing after a predetermined maximum number of decoder iteration.

By contrast, Sindhushayana does not teach or suggest setting a predetermined number of decoder iterations to reject the received frames that do not meet the threshold metric after the predetermined number of decoder iterations. Instead, the reference suggests that the decoder iterations would continue until the CRC test is correct. As a result, even if a frame passes the CRC test, it still may contain an error.

Anticipation, under 35 U.S.C. § 102, requires that each element of a claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference. *Kalman v. Kimberly-Clark Corp.,* 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983); *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 9 USPQ2d 1920 (Fed. Cir. 1989) *cert. denied,* 110 S.Ct. 154 (1989). The term "anticipation," in the sense of 35 U.S.C. 102, has acquired the accepted definition meaning "the disclosure in the prior art of a thing substantially identical with the claimed invention." *In re Schaumann,* 572 F.2d 312, 197 USPQ 5 (CCPA 1978).

As demonstrated above, the reference neither expressly nor inherently discloses identifying frames for use in further processing, if the threshold metric has been met but only after a pre-determined maximum number of decoder iterations.

Accordingly, the claimed invention is defined over the reference.

Claims 2-5, 12, 14-17, and 24 have been rejected under 35 U.S.C. 103 as being unpatentable over Sindhushayana.

First, it is submitted that the claims 2-5, 12, 14-17, and 24 depend from respective independent claims 1 and 13. Therefore, they are defined over the reference at least for the reasons presented above in connection with the independent claims 1 and 13.

Moreover, the Examiner admits that the reference does not disclose details recited in the dependent claims 2-5, 12, 14-17, and 24. However, the Official Notices are taken that the recited details are well known.

The Official Notices are respectfully traversed for the following reasons.

It is well settled that the test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art. *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 226 USPQ 881 (Fed. Cir. 1985). In determining whether a case of prima facie obviousness exists, it is necessary to ascertain whether the prior art teachings appear to be sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification. *In re Lalu*, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1984).

As demonstrated below, the Examiner has failed to ascertain whether the prior art teachings are sufficient to arrive at the claimed subject matter.

For example, the dependent claims 2-5 and 14-17 recite elements of the claimed threshold metric processor or operations for determining whether the threshold metric has been met.

The Examiner admits that Sindhushayana does not suggest the claimed subject matter. However, he provides no reason to conclude that "well known" information relied upon in the Official Notices are sufficient to modify Sindhushayana to arrive at the details of the claimed threshold metric processor or respective operations for determining whether the threshold metric has been met.

Instead, the Examiner considers the claimed features without taking into account that they are elements of the threshold metric processor or operations performed to determine whether the threshold metric has been met.

It is well settled that the nature of the problem solved affects all factual inquiries underlying obviousness. Prior art is relevant to the obviousness inquiry if it is "reasonably pertinent to the *particular problem* with which the inventor is involved." *In re Paulsen,* 30 F.3d 1475, 1481, 31 U.S.P.Q.2d 1671, 1676 (Fed. Cir. 1994).

However, the Examiner applies no prior art pertinent to the threshold metric processor or operations performed to determine whether the threshold metric has been met. It is noted that even the Official Notice does not consider that the claimed elements relate to the threshold metric processor or operations performed to determine whether the threshold metric has been met.
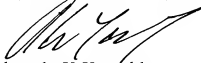
Furthermore, as the Examiner asserts that the claimed features are "well known", he is respectfully requested to cite a reference in support of his position (see MPEP 2144.03).

In view of the foregoing, and in summary, claims 1-25 are considered to be in condition for allowance. Favorable reconsideration of this application, as amended, is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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